

Amendments to the Drawings:

Please delete the drawing sheet that shows Figs. 2 and 3. Please add the appended new sheet that shows the method 40 of Fig. 2.

REMARKS/ARGUMENTS

In the Office Action mailed April 28, 2009, claims 1-13 were rejected. Additionally, the drawings were objected to. In response, Applicants hereby request reconsideration of the application in view of the proposed specification and drawing amendments and the below-provided remarks. No claims are amended, added, or canceled. Applicants submit that the proposed specification and drawing amendments place the present application in condition for allowance or in better condition for appeal.

Objections to the Drawings

The Office Action objects to the drawings because the drawings must show every feature of the invention specified in the claims. The Office Action specifically states that the drawings do not show any word-based correlation being performed. As a preliminary matter, the drawing sheet which includes Figs. 2 and 3 is deleted.

The appended new drawing sheet which shows the method of Fig. 2 shows various steps of one embodiment of performing word correlation, as described in the specification. Corresponding amendments are presented for the specification to references the blocks of the method shown in Fig. 2. These amendments are supported by the original language of the specification. In light of the method shown in the appended new drawing sheet which includes Fig. 2, Applicants submit that the drawings sufficiently show the claimed subject matter. Specifically, the drawings show one embodiment of word-based correlation being performed. Accordingly, Applicants respectfully request that the objection to the drawings be withdrawn.

Claim Rejections under 35 U.S.C. 102 and 103

Claims 1, 2, 4, 6, 7, 9, and 11-13 were rejected under 35 U.S.C. 102(b) as being anticipated by Medlock (U.S. Pat. Pub. No. 2001/0048713, hereinafter Medlock). Additionally, claims 3 and 8 were rejected under 35 U.S.C. 103(a) as being unpatentable over Medlock in view of Laudel et al. (U.S. Pat. No. 6,657,986, hereinafter Laudel). Additionally, claims 5 and 10 were rejected under 35 U.S.C. 103(a) as being unpatentable over Medlock in view of Harrison et al. (U.S. Pat. No. 5,982,811, hereinafter Harrison).

However, Applicants respectfully submit that these claims are patentable over Medlock, Laudel, and Harrison for the reasons provided below.

Independent Claim 1

Applicants assert that claim 1 of the present application is patentable over Medlock because Medlock does not disclose all of the limitations of the claim. Claim 1 recites:

A method of correlating a sampled direct sequence spread spectrum signal with a locally provided replica signal containing a spreading code, the method comprising:

combining the bit or bits of at least two signal samples of the received signal to form a first word;

providing a second word containing bits corresponding to the replica signal; and

executing one or more software based instructions to carry out word-based, hard-wired operations to process the first and second words in order to obtain a correlation value.

(Emphasis added.)

In contrast to the language of the claim, Medlock does not disclose all of the limitations of the claim because Medlock does not disclose carrying out word-based, hard-wired operations to process first and second words in order to obtain a correlation value. Although Medlock describes a process of performing parallel searches for a phase offset between first and second signals (Medlock, paragraph 27, lines 4-6), Medlock expressly states that the sub-steps used in the correlation process are implemented one chip at a time (Medlock, paragraph 50, lines 8-10). In direct-sequence spread spectrum (DSSS) coding such as code division multiple access (CDMA) techniques described in Medlock, a chip is essentially analogous to a bit. Thus, the description in Medlock of processing one chip at a time is at best analogous to processing one bit at a time. However, processing one chip or bit at a time is insufficient to disclose word-based processing because processing one chip or bit at a time does not describe or enable processing multiple bits at the same time. Since processing one chip or bit at a time is not the same word-based processing, Medlock does not disclose all of the limitations of the claim.

Furthermore, the assertion in the present Office Action regarding the description of processing bits in parallel also fails to disclose word-based processing. The Office Action states:

Medlock clearly states in [0043] (lines 7-9) that the bits can be processed (i.e. multiplied) in parallel.
Office Action, 4/28/09, page 2 (emphasis added).

For reference, the cited portion of Medlock states:

If multiply circuit performs its multiply operations for each of the chips in the first signal and the second signal in parallel, then integrate circuit 306 utilizes an address tree in memory to sum the results.

Medlock, paragraph 43, lines 7-9 (emphasis added).

This reference to the multiply circuit refers to the multiply circuit 304 shown in Fig. 3 of Medlock. In regard to the multiply circuit 304, Medlock merely describes multiplying chips or bits of a first sequence with chips or bits of a second sequence. Medlock, paragraph 42, lines 8-12. More specifically, Medlock describes a multiply-logic device for parallel operations on a chip-by-chip basis. Medlock, paragraph 42, lines 12-14. Thus, all of the operations performed are chip- or bit-based operations. Additionally, Medlock describes multiple multiply-logic devices for multiplying both an in-phase (I) and quadrature-phase (Q) chip of a first code sequence with an appropriate I phase portion and a Q phase chip of a second code sequence. Medlock, paragraph 42, lines 17-22.

Even though Medlock describes the possibility of processing certain bits in parallel, the description in Medlock of processing bits in parallel nevertheless fails to disclose the actual limitations of the claim because Medlock does not disclose word-based processing. At best, Medlock merely describes bit-based processing for a first signal and separate bit-based processing for a second signal. In other words, two signals are processed in parallel on a chip-by-chip or bit-by-bit basis. However, processing two separate signals in parallel on a bit-by-bit basis is not the same as word-based processing because the separate chips or bits from separate signals do not constitute a word, even if they are processed in parallel. Rather, the separate processing of separate signals on a

bit-by-bit basis remains bit-by-bit processing, even though separate signals are processed in parallel. Therefore, the description in Medlock of bit-by-bit processing of separate signals in parallel is insufficient to disclose word-based processing and, more specifically, carrying out word-based, hard-wired operations to process first and second words in order to obtain a correlation value.

For the reasons presented above, Medlock does not disclose all of the limitations of the claim because Medlock does not disclose carrying out word-based, hard-wired operations to process first and second words in order to obtain a correlation value, as recited in the claim. Accordingly, Applicants respectfully assert claim 1 is patentable over Medlock because Medlock does not disclose all of the limitations of the claim.

Independent Claim 6

Applicants respectfully assert independent claim 6 is patentable over Medlock at least for similar reasons to those stated above in regard to the rejection of independent claim 1. Claim 6 recites similar subject matter as claim 1. Although the language of claim 6 differs from the language of claim 1, and the scope of claim 6 should be interpreted independently of claim 1, Applicants respectfully assert that the remarks provided above in regard to the rejection of claim 1 also apply to the rejection of claim 6.

Dependent Claims

Claims 2-5 and 7-13 depend from and incorporate all of the limitations of the corresponding independent claims 1 and 6. Applicants respectfully assert claims 2-5 and 7-13 are allowable based on allowable base claims. Additionally, each of claims 2-5 and 7-13 may be allowable for further reasons.

CONCLUSION

Applicants respectfully request reconsideration of the claims in view of the proposed specification and drawing amendments and the remarks made herein. A notice of allowance is earnestly solicited.

At any time during the pendency of this application, please charge any fees required or credit any over payment to Deposit Account **50-4019** pursuant to 37 C.F.R. 1.25. Additionally, please charge any fees to Deposit Account **50-4019** under 37 C.F.R. 1.16, 1.17, 1.19, 1.20 and 1.21.

Respectfully submitted,

/mark a. wilson/

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Mark A. Wilson
Reg. No. 43,994

Wilson & Ham
PMB: 348
2530 Berryessa Road
San Jose, CA 95132
Phone: (925) 249-1300
Fax: (925) 249-0111